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## STATUS INDICATING RETRACTABLE CONNECTION LABEL ASSEMBLY

### FIELD OF THE INVENTION

The present invention relates generally to improving the labeling of electronic devices, and more particularly to a retractable label for identification and information of electronic devices with a high density of physical connections.

### BACKGROUND OF THE INVENTION

Information associated with electronic devices is often located on a back panel or underside of the device, also referred to as a faceplate, which makes access difficult or inconvenient. The information may include items such as a model number, serial number, safety notices and the identity of the manufacturer.

Electronic devices are frequently positioned for front-side access, making access to the information located on a back faceplate or label difficult. Techniques are known that make use of an auxiliary label with more accessible positioning that includes general information associated with the device. Some of these techniques employ labels that insert into the electronic device enclosure and can be extended for viewing when label access is required. The labels can be positioned for convenience and include attachable holders for instances in which the electronic device has limited internal space available to accommodate a label or label-holding structure.

Advancement of electronic device functionality has resulted in higher density of apertures for input, output, power, and peripheral connections, and ventilation requirements. This creates conditions in which information and identification labeling is often obscured, which complicates routine maintenance, problem determination, and corrective actions.

### SUMMARY

Embodiments of the present invention disclose a label assembly for connections of an electronic device. The label assembly is comprised of a flexible body with a front surface and a back surface and includes a proximal end and a distal end. The distal end affixed to an anchoring point at or adjacent to the electronic device. The label assembly includes a label attached to the front surface of the flexible body and includes a visual representation of a connection of the electronic device that corresponds to an actual connection of the electronic device. The label assembly also includes an identification mark associated with the visual representation of the connection. The flexible body of the label assembly includes a status indicator displaying a status based on electrical signals associated with the actual connection of the electronic device, and the flexible body includes an electrical connector connecting the status indicator of the flexible body and the electrical signals associated with the actual connection of the electronic device.

### BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

FIG. 1A is a functional block diagram illustrating a flexible label assembly of an electronic device, in accordance with an embodiment of the present invention.

FIG. 1B is a functional block diagram illustrating a flexible label assembly including a relocated label holder, in accordance with an embodiment of the present invention.

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FIG. 2A is a block diagram illustrating a view through the top of a label housing in accordance with an embodiment of the present invention.

FIG. 2B depicts a block diagram illustrating a view through the side of a label holder including a retractable label holder and label, in accordance with an embodiment of the present invention.

FIG. 3A is a block diagram illustrating a label, in accordance with an embodiment of the present invention.

FIG. 3B is a block diagram illustrating a label holder, including signal circuitry and status indicators, in accordance with an embodiment of the present invention.

FIG. 4A is a block diagram illustrating a flexible label holder including status indicators, in accordance with an embodiment of the present invention.

FIG. 4B is a block diagram illustrating a label for a label holder that includes status indicators, in accordance with an embodiment of the present invention.

### DETAILED DESCRIPTION

Embodiments of the present invention include a label assembly that is retractable and flexible, for electronic devices that require identification of connections to and from the electronic device and status information associated with the connections. In various embodiments of the present invention, identification and functional status information for input and output (I/O) connections to an electronic device, are included on a retractable label assembly by attaching electronic indicator display devices to circuitry within or on a flexible label assembly comprised of a label holder and an attached label. Reproduced images of the empty connection faceplate of an electronic device are used in combination with overlaid identification on a retractable flexible label, to produce an accurate representation of the connection information of the electronic device. Additionally, electronic indicators that are attached to the flexible body label holder and correspond to the I/O connections of the electronic device, receive electronic signals from a connection to the electronic device, providing corresponding status information associated with each connection.

Embodiments of the present invention will now be described in detail with reference to the accompanying drawings.

FIG. 1A is a functional block diagram illustrating label assembly **100** of an electronic device, in accordance with an embodiment of the present invention. Label assembly **100** includes electronic device **105**, faceplate **110**, port **115**, port ID **120**, status indicator **125**, label housing **130**, housing slot **135**, and auxiliary ports **140** and **145**. Label assembly **100** of electronic device **105** is further comprised of label holder **150**, which includes label indicator **160**. Attached to label holder **150** is label **155** which includes label port image **170**, and label auxiliary port images **175** and **180**.

In one embodiment of the present invention, electronic device **105** includes connections, which receive and hold inserted cables, wires, wireless transmitters or other connecting elements for electronic device **105**. The connections of electronic device **105** receive input, transfer output, provide power or connect to peripheral devices or storage. References to connections, herein referred to as connection ports, include actual physical connections made to the electronic device in which electrical signals, digital signals, or power, are received or transmitted, and include components within or connected to the electronic device.

In various embodiments of the present invention, electronic device **105** can be a desktop computer, a server com-